BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

Docket No.: 2019-224-E South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy *Carolinas*, LLC	**VOTE SOLAR'S PETITION FOR REHEARING AND/ OR RECONSIDERATION**
Docket No.: 2019-225-E South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy *Progress*, LLC	

Vote Solar petitions the Public Service Commission of South Carolina ("Commission"), pursuant to S.C. CODE ANN. §§ 1-23-380 and 58-27-2150, S.C. CODE ANN. REGS. 103-825, and other applicable state and federal law, to rehear and/or reconsider Order No. 2022-332 (the "Order 2"), which approves the respective modified integrated resource plans (collectively, the "Modified IRP") of Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC (together with DEC, "Duke Energy" or the "Utilities"). The instant dockets are hereinafter, collective, the "Proceeding."

BOTTOM LINE UPFRONT

Vote Solar is entitled to rehearing and/or reconsideration of Order 2 because it approves Duke Energy's Modified IRP without finding it, or any other relevant integrated resource plan or portfolio, is the most reasonable and prudent plan. Equally as troubling, Order 2 approves the Modified IRP while the Commission's previous order in this

Proceeding holds that the very conditions present in the Modified IRP *cannot* constitute reasonable and prudent planning. Order 2, thus, leaves the parties without a finding of the penultimate issue in the Proceeding and, worse, with legally and practically irreconcilable mandates with consequences for years.

Vote Solar is entitled to rehearing and/or reconsideration of Order 2, further, because it approves the Modified IRP and mandates the selection of a portfolio without reliable, probative, and substantial evidence. Duke Energy failed to comply with the Commission's prior order in the Proceeding (and, consequently, the law), requiring Duke Energy to remodel the Modified IRP. Without this remodeling, the Commission could not decide Order 2 on sufficient evidence. Order 2's mandated portfolio, moreover, does not resolve that evidentiary deficit or, for that matter, "dispose" of Vote Solar's opposition to the Modified IRP.

The Commission should grant rehearing and/or reconsideration to correct these errors.

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BACKGROUND

A. The IRP

This Proceeding was established under S.C. CODE ANN. § 58-37-40(C) (sometimes, "Act 62") to adjudicate Duke Energy's 2020 IRP (collectively, the "Proceeding"). The filed IRP proposes six planning "portfolios," titled, consecutively, 'A' through 'F.' (collectively, the "IRP Portfolios").[1] (IRP 16.) With some exception, each consecutive

[1] Duke Energy filed its 2020 IRP in this Proceeding on September 1, 2020. All citations to the 2020 IRP, herein, cite to DEC's 2020 IRP, unless otherwise stated and are referred to as "IRP [page number]."

portfolio adds increasing amounts of incremental solar, wind, storage, and contribution from energy efficiency and demand-side management on the Utilities' combined system. (*Id.*) Similarly, and with some exception, each consecutive portfolio creates increasing amounts of purported cost and increasingly relies on advancement in technology and policy. (*Id.*) The IRP Portfolios were developed with "intended outcomes," including, among others, least cost planning and earliest "practicable" coal retirement. (*Id.* at 6, 91.)

B. Trial Evidence

Vote Solar argued at trial the Commission should reject the IRP on ground Vote Solar developed evidence showing that Duke Energy's operations are vulnerable to significant risks associated with climate change and transitioning to a net-zero carbon system (collectively, "Climate Change Risks"); that Act 62 requires Duke Energy to incorporate these risks into its resource planning; and that the IRP did not comply with Act 62 for want of modeling these risks.[2] (*See* Tr. 2348.)

Vote Solar's witness, Tyler Fitch ("Fitch"), defined Climate Change Risks; discussed tools to identify them; and demonstrated the materiality of the problems they pose to Duke Energy. (*See* Tr. 736.10-18.) Fitch concluded, among other things, that Duke Energy failed to adequately assess or manage Climate Change Risks in the IRP and, consequently, significantly understated ratepayer costs throughout the planning horizon and beyond. (*See* Tr. 736.39, 736.95.)

[2] The Commission presided over an eight-day trial in the Proceeding, beginning April 26, 2021 and concluding May 5, 2021. The transcript from that trial is cited herein as "Tr. [page number]."

Duke Energy, for its part, conceded its generation portfolio is exposed to "physical, economic, and regulatory" Climate Change Risks. (HE. 47.) Duke Energy's witness, Glen Snider, testified Duke Energy acknowledges climate change affects the Utilities' profitability and value and presents "considerable" economic risk, along with stranded asset risk and increases in cost of capital. (*Id.*; Tr. 115, 117-18.)

Notwithstanding, Vote Solar offered undisputed evidence at trial that Duke Energy's IRP modeling did not include "analysis on the incidence of climate risk on [the Utilities'] . . . assets, operations, and earnings." (HE 4; Tr. 97-99.) Duke Energy witness, Dawn A. Santoianni, testified the exclusive consideration Duke Energy gave to Climate Change Risks within the IRP was: inclusion of a carbon price (in some portfolios), compliance with a North Carolina executive order, and compliance with the Utilities' 2050 net-zero commitment. (Tr. 1550-51.) Notwithstanding Santoianni's claim, it was undisputed that the IRP not model fleet emissions beyond 2035. (Tr. 1546; HE 1; *see* IRP 8.)

C. Order 1

Order 1 was filed on June 28, 2021 and concludes, "Duke [Energy] did *not* prove that their 2020 IRPs are the most reasonable and prudent means of meeting their energy and capacity needs at the time of review." (Order 1 p. 85) (emphasis added).[3] To that

[3] All citations to Order 1, herein, cite to Order No. 2021-447 and are referred to as "Order 1 p. [page number]."

point, the Commission added, "There is *no* evidence in the record for the Commission to make such a conclusion." (Order 1 p. 10) (emphasis added).

Order 1, thus, commanded Duke Energy to: (A) file a modified IRP that (i) selects a "preferred" portfolio and (ii) corrects "deficiencies" relative to various modeling assumptions, inputs, and sensitivities, and (B) incorporate those and other modeling changes in future IRPs.[4] (*See, e.g.*, Order 1 pp. 1, 85-91.)

With respect to the requirement of a modified resource plan, Order 1 requires that:

i. ¶ 1 – Duke Energy "shall" prepare additional load forecasts scenarios that contain sensitivities for economic uncertainty;
ii. ¶ 10 – Duke Energy "shall remodel its portfolios" using different forecasts for gas pricing;
iii. ¶¶ 10-13 – the Modified IRP "shall include third-party solar PPAs priced at $38/MWh as a selectable resource" under 20-year contracts and with other price sensitivities;
iv. ¶ 14 – Duke Energy is "ordered to modify its IRP and adjust its IRP modeling" to account for the extension of the investment tax credit;
v. ¶ 15 – Duke Energy is "ordered to adjust its modeling" to include tracking, singe-axis solar facilities;
vi. ¶ 16 – Duke Energy "shall use the NREL ATB Low figures for battery storage costs;"
vii. ¶ 17 – Duke Energy "shall assume" a 750 MW annual limitation on solar and storage interconnection;
viii. ¶ 19 – Duke Energy "shall perform" a minimax regret analysis.

(Order 1 pp. 86-89.)

[4] While Order 1 did not mandate, expressly, that Duke Energy model Climate Change Risks in future IRPs, Order 1 incorporated many of Vote Solar's objections to Duke Energy's modeling assumptions, inputs, and sensitivities. (*See, e.g.*, Order 1 p. 78, 85-91.)

Item (ii. ¶ 10) is critically important because it links gas price forecasting to Duke Energy's reasonable and prudence burden under S.C. CODE ANN. § 58-37-40(C). To that end, Order 1 held Duke Energy's natural gas forecasting methodology in the IRP "is flawed and results in generation mixes which do *not* represent the most reasonable and prudent means of meeting [the Utilities'] energy and capacity needs." (Order 1 p. 17) (emphasis added). To correct this error, Order 1 provides that Duke "shall"—within the modified IRP (and beyond)—"remodel its portfolios using natural gas pricing forecasts that rely on market prices for eighteen months before transitioning over eighteen months to the average of at least two fundamentals-based forecasts . . . ." (Order 1 p. 88 ¶ 10.)

D. The Modified IRP

Contrary to Order 1, the Modified IRP does *not* remodel the IRP Portfolios.[5] Instead, it presents nine entirely "new" portfolios, which Duke Energy represents as "supplemental" to the IRP Portfolios (collectively, the "New Portfolios"). (Mod. IRP 6.) The New Portfolios are titled based on their relative similarity to the IRP Portfolios. (*See id*.)[6] New Portfolios 'A1' and 'A2,' for example, spring from the same outcome-oriented least-cost assumptions delivered by IRP Portfolio 'A.' (*See id*.) The other New Portfolios— 'B1,' 'B2,' 'C1,' 'C2,' 'D1,' 'E1,' and 'F1'—follow the same convention and,

[5] Duke Energy filed the Modified IRP in this Proceeding on September 1, 2020. All citations to the Modified IRP, herein, cite to DEC's Modified IRP, unless otherwise stated and are referred to as "Mod. IRP [page number]."

[6] Individual portfolios in the IRP are hereinafter referred to as "IRP Portfolio '[x].'"

consistently, follow similar patterns with respect to incrementally-increased costs and onboarding of new renewable generation and storage. (*See* Mod. IRP 8.)

In the Modified IRP, Duke Energy selects New Portfolio 'C1' as its 'preferred' portfolio and concedes it only considered the New Portfolios when determining which was the most reasonable and prudent. (*See, e.g.*, Mod. IRP 13.) Said differently, it is undisputed Duke Energy did *not* consider the possibility of the IRP Portfolios meeting such criteria. (*Id.*) ("Of the existing portfolios, Portfolio C1 (Modified Earliest Practicable Coal Retirements) is the best representation *among the Company's SC Supplemental Portfolios* of how to achieve these goals using proven technologies that are economic today.") (emphasis added).

E. ORS's Report

The South Carolina Office of Regulatory Staff ("ORS) reported[7] that the Modified IRP "sufficiently met the requirements" of Order 1, but, quixotically, identified how the Modified IRP remained noncompliant with Order 1, including: (i) that the Modified IRP "did not include all of the Commission mandated requirements;" (ii) that Duke Energy—for some New Portfolios—did "not [use] the Commission-required [gas] forecasts;" (iii) that Duke Energy "performed the PPA sensitivity analysis on [only] four of the nine [New] Portfolios;" and, further, (iv) "imposed limitations on the selection of PPAs to only half of

[7] On October 26, 2021, ORS filed a report under S.C. CODE ANN. § 58-37-40(C)(3) that is responsive to the Modified IRP. All citations to this report, herein, cite are referred to as "Report [page number]."

the 750 MW annual interconnection limit . . . ." (Report 5, 13, 17.) ORS further criticizes Duke Energy's failure to simply remodel the IRP Portfolios:

> Much of the complexity in this Modified IRP stems from the fact that Duke Energy chose to make multiple runs with differing assumptions for Portfolios A, B and C. A much simpler solution would have been to incorporate all of the Commission-required adjustments into the original 2020 IRP portfolios and re-run each portfolio only once under those consistent assumptions.

(Report 19 ¶ 1.) ORS does not explain how the Modified IRP purportedly satisfied Order 1 while retaining these shortcomings.

F. Vote Solar's Opposition

Vote Solar's comments in opposition to the Modified IRP disputed that Duke Energy complied with Order 1 and Act 62 and disputed, further, that New Portfolio 'C1' is the most reasonable and prudent portfolio (the "Comments").[8] (*E.g.*, Comments 3, 20-25.) The Comments, consequently, request that the Commission reject and not approve the Modified IRP and seek further clarification and direction from the Commission, as follows:

i. clarify that Order 1's modifications correct, not supplement the IRP Portfolios;
ii. direct that Duke Energy modify ***all*** portfolios according to Order 1;
iii. clarify that the selection of a preferred plan requires Duke Energy to implement actions based on that plan;
iv. direct Duke Energy to implement a "no-regrets" approach to coal retirement;
v. direct Duke Energy to conduct an analysis of carbon emissions and net-zero pathway beyond 2035 and through 2050; and

[8] Vote Solar filed opposition comments in this Proceeding on October 26, 2021. All citations to the Comments, herein, are referred to as "Comments [page number]."

vi. direct Duke Energy to perform cost and capacity factor analysis for zero-carbon hydrogen.

(*Id.*)

The Comments also address Duke Energy's preferred plan, New Portfolio 'C1' (sometimes, "Duke's Preferred Plan"). By selecting New Portfolio 'C1,' Duke Energy expresses its desire to build a staggering amount of new gas generation. Duke's Preferred Plan contemplates an additional 4.4 gigawatts of gas generation compared to IRP Portfolio 'B' (*i.e.*, base case with carbon policy)—a thirty percent increase.[9] (Comments 3.) It is no surprise then that carbon emissions from Duke's Preferred Plan <u>*exceed*</u> IRP Portfolio 'B' when carried through 2050. (Comments 14, Fig. 2.)

G. Order 2

Order 2 was filed on May 5, 2022 and accepts the Modified IRP and mandates that Duke Energy use New Portfolio 'A2.'[10] (Order 2 p. 1.) The order purports to "dispose[] of" the "significant" concerns raised by intervenors, including Vote Solar, by mandating New Portfolio 'A2.' (Order 2 p. 10.) Order 2's recitation of Vote Solar's concerns (Order 2 p. 7-8) is misstated and not comprehensive. *See infra.*

The only indication the Commission makes it considered S.C. CODE ANN. § 58-37-40(C) is stated as follows: "the Commission concludes that the Modified 2020 IRPs

[9] Capacity expansion was planned contemplating seven new combustion turbines, each with 457 MW capacity, and an additional combined cycle plant exceeding 1,200 MW in capacity. (Comments 12.)

[10] All citations to Order 2, herein, cite to Order No. 2022-332 and are referred to as "Order 2 p. [page number]."

have been filed pursuant to and in satisfaction of the requirements of S.C. Code. Ann. Section 58-37-40 et. seq. . . . . " (Order 2 p. 12.)

The Commission should grant rehearing and/or reconsideration to correct the following errors.

ARGUMENT

Standard of Review

Pursuant to S.C. CODE ANN. § 58-27-2150, a party may apply within ten (10) days of service of the Order to the Commission for a rehearing in respect to any matter determined in the proceeding. A petition for rehearing or reconsideration must set forth clearly and concisely "(a) the factual and legal issues forming the basis for the petition; (b) the alleged error or errors in the Commission Order; and (c) the statutory provision or other authority upon which the petition is based." S.C. CODE ANN REG. § 103-825(A)(4).

"The purpose of the petition for rehearing and/or reconsideration is to allow the Commission the discretion to rehear and/or reexamine the merits of issued orders, pursuant to legal or factual questions raised about those orders by parties in interest, prior to a possible appeal." *In re: South Carolina Electric & Gas Co.*, Order No. 2013-5 (Feb. 14, 2013). In other words, the petition "allow[s] the Commission to identify and correct specific alleged errors and omissions in its prior rulings." *In re: Friends of the Earth and Sierra Club*, Order No. 2019-122 (Feb. 12, 2019).

Commission decisions will be reversed or remanded if the decision is "clearly erroneous in view of the reliable, probative, and substantial evidence on the whole record; or [] arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion." S.C. CODE ANN. § 1-23-380(5)(e)-(f). "A decision is arbitrary if it

is without a rational basis, is based alone on one's will and not upon any course of reasoning and exercise of judgment, is made at pleasure, without adequate determining principles, or is governed by no fixed rules or standards." *Deese v. S.C. State Bd. of Dentistry*, 286 S.C. 182, 184–85 (S.C. 1985).

I. THE COMMISSION ERRED IN APPROVING THE MODIFIED IRP GIVEN THAT ORDER 1 HOLDS IT CANNOT BE THE MOST REASONABLE AND PRUDENT MEANS TO MEET THE UTILITIES' ENERGY AND CAPACITY NEEDS.

Vote Solar is entitled to rehearing and/or reconsideration of Order 2 because it is arbitrary and capricious as it cannot be squared with and is precluded by Order 1.

Order 1 held Duke Energy's natural gas forecasting methodology "is flawed and results in generation mixes which do *not* represent the most reasonable and prudent means of meeting [the Utilities'] energy and capacity needs." (Order 1 p. 17) (emphasis added). Duke Energy was, thus, commanded that it "shall remodel its portfolios using natural gas pricing forecasts that rely on market prices for eighteen months before transitioning over eighteen months to the average of at least two fundamentals-based forecasts . . . ." (Order 1 p. 88 ¶ 10.)

This is an unambiguous edict from the Commission that an IRP *cannot* comply with S.C. CODE ANN. § 58-37-40(C) *unless* its portfolios—without limitation—model 18 months of the market and then transition to fundamentals-based forecasts for natural gas pricing. The Commission did not mince words when it referred to **<re>**model and portfolio**<s>**, plural and without limitation. Both appear twice in Order 1 with respect to remodeling gas forecasts. (*Id*. and Order 1 p. 63 ["The Commission . . . directs that Duke

revise its IRPs after revisiting its natural gas pricing methodology and remodeling its portfolios using resulting natural gas price predictions."]).

Neither Duke Energy nor ORS, for their part, can credibly dispute that the Modified IRP does *not* remodel ***any*** portfolio. (*See, e.g.,* Report 19; Mod. IRP 5-6, 8 ["the Company has not comprehensively updated all modeling inputs and assumptions for purposes of this modified 2020 IRP."]). The Modified IRP, thus—by definition—is ***not*** the most reasonable and prudent means of planning for Duke Energy and cannot be approved under authority of Order 1.

Even if the Commission found that supplementing the IRP Portfolios was sufficient to "remodel" the IRP, the Modified IRP is still hung by the undisputed fact that Duke Energy did not model 18 months of market prices before transitioning to fundamentals forecasts for ***all*** New Portfolios. Duke Energy and ORS do not dispute that New Portfolios 'A1,' 'B1,' 'C1,' 'D1,' 'E1,' and 'F1' do *not* contain 18 months of market prices before transitioning to fundamentals forecasts. (Mod. IRP 8; Report 5.)

The current context of natural gas price volatility demonstrates that the Commission—in Order 1—wisely acknowledged the potential for unexpected impacts on consumer affordability within resource planning. The price of natural gas has soared over the past few months due to a variety of factors: the early onset of high temperatures, lack of storage, and global shortages due to the Russian invasion of Ukraine.[11] These events

[11] *See Short-Term Energy Outlook*, U.S. Energy Information Administration, May 2022, available at URL, https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf, last accessed May 15, 2022.

are out of Duke Energy's control, which makes natural gas price modeling even more critical to resource planning. Without modeling for a wide range of future gas prices, the Modified IRP cannot communicate the range of possible revenue requirements for any portfolio presented herein and, consequently, cannot provide meaningful estimates of the portfolios' impacts on ratepayers and their monthly bills.

The Modified IRP is, thus, incompliant with (and cannot be compliant) with Order 1 or Act 62. Unless the Commission overruled its own decision without comment or notice—making the decision highly vulnerable to appeal—Order 2 cannot be squared with Order 1 and is arbitrary and capricious. *See Duke Energy Carolinas, LLC v. S.C. Off. of Regul. Staff,* 434 S.C. 392, 405 (2021), *reh'g denied* (Feb. 1, 2022) (citing 73A C.J.S. Public Administrative Law and Procedure § 352 and stating, "prior [administration] decisions are entitled to great weight, so long as the administrative body rationally justifies its change of position, it may depart from prior rule or practice."). Said otherwise, Order 1 provides the parties with a finding of what does *not* constitute reasonable and prudent planning. Order 2, on the other hand, approves a plan that—by Order 1's own terms—*cannot* be the most reasonable and prudent means to meet Duke Energy's energy and capacity needs. This Commission should grant rehearing and/or reconsideration to correct this error.

II. THE COMMISSION ERRED BY MAKING NO FINDING THAT ANY RESOURCE PLAN OR PORTFOLIO IS THE MOST REASONABLE AND PRUDENT MEANS TO MEET THE UTILITIES' ENERGY AND CAPACITY NEEDS.

Even if the Commission can reconcile Order 2 with Order 1, Order 2 remains arbitrary and capricious because it makes no factual or legal finding on the penultimate issue in the Proceeding.

A. Act 62

Duke Energy is required by law to deliver its integrated resource plan to the Commission for review. *See* S.C. CODE ANN. § 58-37-40(A)(1). The Commission, then, must hold a litigated, evidentiary proceeding to develop the electrical utility's integrated resource plan. *See* S.C. CODE ANN. § 58-37-40(C)(1). Act 62 prescribes the criteria for how the Commission may apply its discretion in adjudicating the resource plan, stating: "The commission shall approve an electrical utility's integrated resource plan *if* the commission determines that the proposed integrated resource plan represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed." S.C. CODE ANN. § 58-37-40(C)(2) (emphasis added).

The Commission's discretion, in that regard, is limited; it must consider seven factors. *See id.* "To determine whether the integrated resource plan is the most reasonable and prudent means of meeting energy and capacity needs, the commission, in its discretion, *shall consider* whether the plan appropriately balances the following factors:

(a) resource adequacy and capacity to serve anticipated peak electrical load, and applicable planning reserve margins;
(b) consumer affordability and least cost;

(c) compliance with applicable state and federal environmental regulations;
(d) power supply reliability;
(e) commodity price risks;
(f) diversity of generation supply; and
(g) other foreseeable conditions that the commission determines to be for the public interest.

Id. (emphasis added). S.C. CODE ANN. § 58-37-40(C)(1)'s balancing factors are hereinafter, the "Statutory Balancing Factors."

B. Other Requirements

Although South Carolina courts of review apply a deferential standard to this Commission's decisions, the standard "does *not* mean . . . the Court will accept an administrative agency's decision at face value without requiring the agency to explain its reasoning." *Porter v. S.C. Pub. Serv. Comm'n*, 333 S.C. 12, 21 (S.C. 1998) (emphasis added). "Where material facts are in dispute, the administrative body ***must*** make specific, express findings of fact." *Id*. (emphasis added).

S.C. CODE ANN. § 58-27-2100 provides the degree of specificity required: "findings shall be in sufficient detail to enable the court on review to determine the controverted questions presented by the proceeding and whether proper weight was given to the evidence." *See also Seabrook v S.C. Public Service Comm'n*, 383 S.C. 493, 497 (S.C. 1991) (the Commission must make "explicit findings of fact which allow meaningful appellate review.").

C. Application

South Carolina law requires, first, that the Commission make a finding of fact that Duke Energy's proposed integrated resource plan (IRP, Modified IRP, or otherwise)

represents the most reasonable a prudent means of meeting energy and capacity needs. The Commission must then, under the same authority, explain its analysis within the confines of the Statutory Balancing Factors.

Notwithstanding, Order 2 makes no finding of fact that the IRP, the Modified IRP, or New Portfolio 'A2' is the most reasonable and prudent means to satisfy Duke Energy's energy and capacity needs. Order 2 does not even find that Duke's Preferred Plan is *not* the most reasonable and prudent means to satisfy the Utilities' energy and capacity needs. Neither does Order 2 discuss or identify which factors, if any, the Commission balanced under S.C. CODE ANN. § 58-37-40(C) (*e.g.*, resources adequacy, affordability, compliance, reliability, price risk, and generation diversity, among others). The latter is a critical step to educate the parties on what the Commission ***values*** for purposes of resource planning, vis-à-vis the Statutory Balancing Factors. *See generally Palmetto All., Inc. v. S.C. Pub. Serv. Comm'n*, 282 S.C. 430 (S.C. 1984) (affirming Commission and holding it made sufficient factual findings when its order was "explicit with demonstrations of" . . . "[t]he six factors which the Commission must consider . . . " under S.C. CODE ANN. § 6–23–60). That is, after all, is why this venerable agency exists—to exert its values within the discretion permitted by law. *See generally* S.C. Code Ann. § 58-3-20 [qualifications for commissioners].

Order 2, thus, does not comply with the express statutory mandate applicable to the Proceeding under S.C. CODE ANN. § 58-37-40(C)(1), much less other requirements, including, S.C. CODE ANN. § 58-27-2100 and the standard set forth in *Porter* and *Seabrook*.

Order 2's "conclu[sion] that the Modified 2020 IRPs have been filed pursuant to and in satisfaction of the requirements of S.C. Code. Ann. Section 58-37-40 et. seq." does

not save it. Such a conclusory and bald conclusion—to the extent it even addresses S.C. CODE ANN. § 58-37-40(C), which is unclear—falls far short of the Commission's statutory and legal mandate to make findings of fact in this Proceeding.

Order 1 cannot save Order 2's deficiencies either. Order 1, critically, makes *no* factual determination that any IRP or portfolio is the most reasonable and prudent. To the contrary, the Commission held in Order 1 that "Duke [Energy] did *not* prove that their 2020 IRPs are the most reasonable and prudent means of meeting their energy and capacity needs at the time of review." (Order 1 p. 85) (emphasis added).

The confluence of these events is the Commission has not made ***any*** determination that ***any*** resource plan or portfolio presented by Duke Energy is the most reasonable and prudent means to meet the Utilities' energy and capacity needs. The Commission should grant rehearing and/or reconsideration to correct this error, consistent with the argument below.

III. THE COMMISSION ERRED IN APPROVING THE MODIFIED IRP AND MANDATING NEW PORTFOLIO 'A2' BECAUSE THAT HOLDING CANNOT BE BASED ON SUFFICIENT EVIDENCE, WHILE DUKE ENERGY REMAINED INCOMPLIANT WITH ORDER 1, AND OTHERWISE.

Vote Solar is entitled to rehearing and/or reconsideration because the Commission did not and could not base its decision on reliable, probative, and substantial evidence. For the same reasons, Order 2 is arbitrary and capricious. Vote Solar incorporates herein by this reference all statements, comments, data, and figures presented to the Commission in the Comments.

A. Standard

The Commission "*must* . . . base its decision on reliable, probative, and substantial evidence on the whole record." *Porter*, 333 S.C. at 21 (S.C. 1998) (emphasis added); *see also* S.C. CODE ANN. § 1-23-380(5)(e)-(f) [Commission decisions will be reversed or remanded if the decision is "clearly erroneous in view of the reliable, probative, and substantial evidence on the whole record; or [] arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion."].

While the Commission is afforded a deferential standard on appeal, its decisions will be overturned unless "supported by substantial evidence." *See Kiawah Prop. Owners Grp. v. The Pub. Serv. Comm'n of S.C.*, 357 S.C. 232, 237 (S.C. 2004). "Substantial evidence is not a mere scintilla; rather, it is evidence which, considering the record as a whole, would allow reasonable minds to reach the same conclusion as the agency." *Friends of Earth v. Pub. Serv. Comm'n of S.C.*, 387 S.C. 360, 366 (2010).

B. Noncompliance with Order 1

As for this this Proceeding, Order 1 held "[t]here is *no* evidence in the record for the Commission to make . . . a conclusion" that the "portfolios, or combinations thereof, would constitute 'the most reasonable and prudent means' of meeting Duke [Energy]'s resource needs." (Order 1 p. 10.) Order 1, naturally, required additional evidence to cure

the deficiency, including the requirement that Duke Energy select a preferred portfolio.[12] As previously discussed, Duke Energy cannot credibly dispute that it did *not* provide such evidence. While Duke Energy remained noncompliant with Order 1, the Commission was in *no* better position with respect to the evidence when it approved the Modified IRP and New Portfolio 'A2' in Order 2 than when it rejected the IRP in Order 1.

Duke Energy's noncompliance with Order 1 caused, among others, the following deficiencies in the record.

i. The Commission could not compare apples to apples. In addition to not remodeling the IRP Portfolios, Duke Energy cherry picked which directives from Order 1 to apply, leaving the Commission in a place in which it could not compare portfolios consistently and against the same metrics. (Comments 1.) ORS agreed. (*See* Report 19.) The Commission was, thus, deprived of a mechanism by which it could use its discretion to value one Statutory Balancing Factors over the other.

ii. The IRP Portfolios and New Portfolios ending in (1) do not contain proper gas price modeling or storage costs. In addition to the IRP Portfolios, New Portfolios 'A1,' 'B1,' 'C1,' 'D1,' 'E1,' and 'F1' do not model 18 months of market prices before transitioning to fundamentals forecasts and do not model NREL ATB

[12] Vote Solar acknowledges that, unlike Order 1's findings with respect to natural gas forecasts, Order 1's express finding of an evidentiary deficit may have applied, exclusively, to Duke Energy's failure to select a preferred plan. In any event, the Commission's concern remained unresolved by the Modified IRP because Duke Energy does not commit to acting on any one portfolio and the Commission's mandating New Portfolio 'A2' does not resolve the parties' opposition. *See infra* § III.C.

low-cost forecasts for storage. (Mod. IRP 8.) As Fitch discusses in the Comments, this has the consequence of, "inflat[ing] costs of those plans and creates inconsistencies between . . . cost-optimization and final cost representation." (Comments 7.) ORS agreed, generally. (*See* Report 20) (New Portfolio 'A2,' 'B2,' and 'C2' "do not achieve optimal cost results given that they were optimized under different cost assumptions than used in the final PVRR cost determination.").

iii. The New Portfolios use $38 per MWh but limit the availability of third-party-owned solar to half the interconnection limit. ORS acknowledges the Modified IRP "imposed limitations on the selection of PPAs to only half of the 750 MW annual interconnection limit." (Report 17.) According to Fitch, this "inflates the price of utility-scale solar, which increases costs overall, and could imprudently tilt the model away from selecting solar power across portfolios." (Comments 7.)

The Commission should grant rehearing and/or reconsideration in these circumstances, given that Duke Energy's noncompliance with Order 1 created an incomplete record without adequate evidence. That is true, independently, and also true because the Modified IRP did not and could not cure the Commission's holding in Order 1 "[t]here is no evidence in the record for the Commission to make . . . a conclusion" on reasonableness and prudence. This is not a trivial or merely technical miscalculation; it is a serious one the South Carolina General Assembly sought to avoid. *See generally* S.C. CODE ANN. § 58-37-40(C)(3) [following an resource plan modification order from the Commission, the applicant "***shall*** submit a revised plan addressing concerns identified by the commission and incorporating commission-mandated revisions to the integrated resource plan . . . . "] (emphasis added).

The additional evidence required by Order 1 is critical to the Commission's discretion in determining reasonable and prudence and also to support that discretion with an analysis of the Statutory Balancing Factors. Vote Solar argues the reason neither occurred in this Proceeding is because the record lacked reliable, probative, and substantial evidence from which the Commission should make its penultimate determination.

C. New Portfolio 'A2'

In addition to the reasons stated above, Order 2's mandate for the selection of New Portfolio 'A2' is unsupported by reliable, probative, and substantial evidence because it was not pursued by any party to the litigation and does not consider Vote Solar's evidence. It is arbitrary and capricious for the same reason.

Order 2 purports, *in error*, to summarily "dispose[]" of Vote Solar's opposition to the Modified IRP by mandating the selection of New Portfolio 'A2.' For that purpose, the Commission opines: "many of the issues raised by the intervening parties concern the selection of the Duke Companies' C1 Portfolio as the Duke Companies Preferred Plan." (Order 2 p. 10.) To the contrary, however, Vote Solar opposed the Modified IRP on grounds *un*related related to New Portfolio 'C1' and on grounds that are, moreover, equally applicable to New Portfolio 'A2.' *See infra*. Vote Solar's opposition to the Modified IRP, thus, remains unaddressed and unresolved by the Commission, as discussed further below.

1. <u>Exacerbation of Long-Term Risks</u>

Vote Solar's opposition to the Modified IRP and Duke Energy's selection of New Portfolio 'C1' includes concern that both exacerbate long-term risks from carbon emissions. (Comments 11-17.) The Commission has echoed such a claim. Order 1, for example, expresses concern Duke Energy is "over-committing to natural gas generation" and that

such zeal for new gas-fired plants "risks reversing" the Utilities' "progress in reducing reliance on coal . . . . " (Order 1 p. 63.) Order 1 further notes such "gas-dependent buildout [is] inconsistent with [the Utilities'] internal goals." (*Id*.)

Notwithstanding, Duke Energy doubles down on new gas generation in its New Portfolios. New Portfolio 'C1,' for example, contemplates an additional 4.4 gigawatts of gas generation compared to IRP Portfolio 'B' (*i.e.*, base case with carbon policy)—a thirty percent increase. (Comments 3.) Critically, this is the ***same*** amount of new gas generation contemplated by New Portfolio 'A2.' (Mod. IRP 10.) It can hardly be argued, therefore, that Vote Solar's concerns with respect to the long-term risks associated with New Portfolio 'C1'—much less the Commission's concern—are disposed of by Order 2's mandate for New Portfolio 'A2.' To compound this error, the Commission does *not* identify this argument in Order 2 and, presumably, did not consider it. (*Compare* Order 2 pp. 7-8, *with* Comments 11-17, 23.)

Vote Solar and the Commission's concerns around long-term risk and coal retirement are well-taken.[13] Carbon emissions from New Portfolios 'A2' *and* 'C1' *exceed* IRP Portfolio 'B' when carried through 2050. (*See, generally*, Comments 14, Fig. 2.) The Utilities' attempts to assuage the Commission otherwise, with an inference that emissions from new gas plants will be mitigated by hydrogen generation, are unavailing. (*See* Mod. IRP 9) ("new natural gas generators shown in [the New Portfolios] will be capable of

[13] Even Duke Energy, for its part, acknowledges long-term risks from carbon-based fuels. The Utilities' recently filed petition for reconsideration in this Proceeding discusses, at length, long-term risks associated with carbon emissions, but manages, quixotically, to island new gas generation from causing them.

utilizing a minimum of 30% hydrogen, with later additions potentially reaching 100% hydrogen capability by 2030."). Duke Energy does *not* model the feasibility, cost, and risk factors attributable to hydrogen generation in the Modified IRP. (Comments 17-18.) Note, again, Vote Solar's opposition reaches across all New Portfolios.

For these reasons Order 2's mandate for New Portfolio 'A2' does *not* dispose of or resolve the Modified IRP's evidentiary deficit.

2. The Utilities' Commitment Issues

Vote Solar further criticizes the Modified IRP on ground Duke Energy makes no actionable commitment to the portfolio selected, New Portfolio 'C1' or otherwise. (Comments 22.) ORS echoes this criticism. (Report 10.) The Modified IRP states Duke Energy's selection of New Portfolio 'C1' is:

> limited to fulfilling the specific directive to identify the most reasonable and prudent means for meeting . . . long-term energy and capacity needs and such selection is not intended to dictate its use as the appropriate plan for all other legal and regulatory purposes that integrated resource planning serves.

(Mod. IRP 23.) This kind of backpedaling renders the planning process and, consequently, South Carolina law, a nullity—a mere academic exercise. Without information relative to what actions Duke Energy will take to implement the selected (or mandated) portfolio (*e.g.*, planning, permitting, investment, or construction plans for new generation resources), the Commission cannot make a its statutory determinations in this Proceeding based on substantial evidence.

In sum, the Commission did not and could not base its decision on reliable, probative, and substantial evidence without considering Vote Solar's evidence. Order 2 is,

equally, arbitrary and capricious for the same reason. The Commission should grant rehearing and/or reconsideration to correct this error.

CONCLUSION

The Commissions should grant rehearing and/or reconsideration to correct the foregoing errors and provide clarity to stakeholders on the principles and priorities guiding the Commission as Duke Energy navigates new planning challenges related to extreme weather events in the service area, the potential for additional environmental regulation, and investor and ratepayer rejection of fossil fuels.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY on May 15, 2022 a true and correct copy of the foregoing was served via electronic mail upon the parties of record, in accordance with the service list attached hereto.

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